

unpatentable over either a single reference or a combination of references. The primary reference cited by the Examiner is *Chen*, U.S. Patent No. 6,363,353, and the secondary reference is *Spencer*, U.S. Patent 5,915,249.¹ Claims 1, 3, 9, 16, 17, 21 and 22 have been amended, and claims 2, 23 and 24 have been deleted. Thus, claims 1, 3-22 and 25-33 are still pending.

The amendments to the three pending independent claims — claims 1, 9 and 22 — illustrate that the method of the present invention used to analyze information from a data source (i) selects a plurality of operators for analyzing information, (ii) links those operators together in a network, (iii) creates a visual representation of the network, (iv) and after evaluating the operators against the data source, creates a visual representation of an output indicator for each of the operators. The inventor of the present invention sought to create a "new information analysis tool [that] enable[s] manipulation of the input parameters and multiple output databases in such a way as to demonstrate how various database characteristics interrelate."² Creating a visual network of a plurality of operators and corresponding output indicators, such as those illustrated in Figs. 2 and 10, accomplishes the desired objective.

The combination of cited references does not disclose selecting a plurality of operators for analyzing information, linking the operators together in a network, creating a visual network of the operators, creating corresponding output indicators and incorporating the output indicators into the visual network. Moreover, the cited references do not suggest modifying their respective disclosures to produce the claimed invention. Therefore, pending claims 1, 3-22 and 25-33 are not obvious in view of the cited references.

¹ As will be discussed *infra*, the Examiner has also cited a plurality of post-secondary references and attempted to combine the post-secondary references with *Chen* and *Spencer* to render certain individual claims unpatentable.

² Specification, p. 2, ll. 16-18.

III. Argument

A. *Chen, Spencer and Li*— Either Individually or in Combination — Do Not Disclose All of the Claimed Elements

Claims 1-2, 9 and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Chen*. Claim 1 has been amended to include an element similar to that of claim 2. That is claim 1 now includes the steps of selecting a plurality of operators for analyzing information and linking those operators together in a network. Claim 1 has also been amended to include the step of creating a visual representation of the network. Moreover, claim 1 now includes the step of "creating a plurality of output indicators corresponding to each of said operators on said visual representation of said network, wherein said output indicators visually represent a quantified output of said corresponding operators." The step of creating a plurality of output indicators is similar to the element in original claim 16, which was rejected as obvious in view of the combination of *Chen, Spencer and Li et al.*, U.S. Patent No. 5,911,138 (hereinafter "*Li*").

The Examiner admits that "*Chen* does not clearly disclose 'operators for analyzing information.'"³ Although *Spencer* discloses document identifiers, document identifiers are not related to operators. Operators allow the processor to perform analysis on a data source. The identifiers in *Spencer* do not disclose performing analysis on a data source. Thus, *Spencer* also fails to disclose the claimed operators.

Because *Chen* and *Spencer* do not disclose operators, those two references — either individually or in combination — fail to disclose the following claimed elements of claim 1: "selecting a plurality of operators for analyzing information"; "linking said operators together in a network"; "creating a visual representation of said network"; and "evaluating said operators . ." Furthermore, the Examiner admits that *Chen* and *Spencer* do not disclose "creating a plurality

of output indicators corresponding to each of said operators . . ."⁴ Thus, *Chen* and *Spencer* clearly fail to disclose five of the seven elements of claim 1.

However, the Examiner cites *Li* and combines that reference with *Chen* and *Spencer* and asserts that the combination of the three references discloses creating an output indicator similar to the output indicator claimed in element seven of claim 1.⁵ The Examiner's reason for combining the three references stems from the Examiner's personal belief that "the combination [of *Chen*, *Spencer* and *Li*] would provide a method including the step of take into account the relative significance of terms in the databases structure such as text or document databases [citations omitted] in the information retrieval with analyzing information from data sources of a data warehouse source environment."⁶

It is well settled that "[o]bviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination."⁷ Although the suggestion to achieve the claimed invention may be found either explicitly or implicitly within the references themselves, there must be some evidence that the skilled artisan would select certain elements from the prior art references and combine them in the manner claimed.⁸ That is, generalizations about the specific teachings of references are insufficient to support a determination of obviousness. Rather, to establish a *prima facie* case of

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³ 05/10/2002 Office Action, pp. 3 & 4. See also *id.* at p. 5 (admitting that "*Chen* does not clearly disclose 'a plurality of operators for detecting whether information satisfies a desired constraint and visual representation.'").

⁴ See 05/10/2002 Office Action, p. 12 (stating that "*Chen* in view of *Spencer* does not explicitly indicate 'creating an output indicator . . .'").

⁵ See 05/10/2002 Office Action, p. 12 (reasoning that "it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of *Chen* in view of *Spencer* with the teachings of *Li* . . .").

⁶ 05/10/2002 Office Action, p. 12.

⁷ *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984).

obviousness, there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art to modify the reference.⁹

In this case, the Examiner attempts to combine *Chen* and *Spencer* to render all but the seventh element of claim 1 obvious. However, "[w]hen a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the reference."¹⁰ Moreover,

a rejection cannot be predicated on the mere identification in [the references] of individual components of claimed limitations. Rather, particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed.¹¹

Here, in order to substantiate an obviousness rejection, the Examiner must point to some particular teaching or suggestion in *Chen*, *Spencer* or *Li* that supports combining and modifying all three references to include the claimed steps of "selecting a plurality of operators for analyzing information"; "linking said operators together in a network"; "creating a visual representation of said network"; "evaluating said operators . . ." and "creating a plurality of output indicators corresponding to each of said operators . . ." As noted *supra*, rather than pointing to such a particular teaching or suggestion, the Examiner has relied upon his unsupported assertion that it would have been obvious to create a method including the step of

(continued...)

⁸ *Ecolochem, Inc. v. Southern California Edison Co.*, 227 F.3d 1361, 1372, 56 U.S.P.Q.2d 1065, 1073 (Fed. Cir. 2000) (holding that without specific evidence to modify the teachings of prior art references, the obviousness determination, based upon such modified references, is improper).

⁹ MPEP 706.02(j). See also *In re Vaeck*, 947 F.2d 488, 493, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991) (explaining that the teachings or suggestion to make the claimed invention must be found in the prior art and not based upon the Applicant's disclosure).

¹⁰ *In re Rouffet*, 149 F.3d 1350, 1354, 47 U.S.P.Q.2d 1453, 1456 (Fed. Cir. 1998).

¹¹ *In re Kotzab*, 217 F.3d 1365, 1371, 55 U.S.P.Q.2d 1313, 1318 (Fed. Cir. 2000) (holding that the Board did not make out a proper *prima facie* case of obviousness when it combined and modified multiple references to make the claimed invention).

take into account the relative significance of terms in the databases structure. That is, the prior art *itself* must suggest the desirability of the modification.¹²

Again, the only purported "evidence" for combining the cited references and rendering the present invention obvious is the Examiner's conclusory statement that "it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of *Chen* in view *Spencer* with the teachings of *Li* so as to obtain a method for analyzing information from a data source because the combination would provide a method including the step of take into account the relative significance of terms in the databases structure such as text or document databases [citations omitted] in the information retrieval with analyzing information from data sources of a data warehouse source environment."¹³ Clearly, such a conclusory statement is insufficient "evidence" to supply missing claim elements and combine references.¹⁴

B. Use of Hindsight Reconstruction is Inappropriate to Render Claim Obvious

Moreover, when determining the issue of obviousness, the Examiner must consider the claimed invention *as a whole*.¹⁵ In other words, the Examiner cannot use hindsight reconstruction to render the present invention obvious. The fact that the Examiner had to pick and choose discrete portions from each of the three cited references to render the present invention obvious shows that the invention would not have been obvious to a person of ordinary skill in the art at the time the invention was made. That is, the Examiner used the Applicant's

¹² *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q.2d 1125, 1127 (Fed. Cir. 1984).

¹³ 05/10/2002 Office Action, p. 12.

¹⁴ See *In re Dembiczaik*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999) (stating that an unsupported conclusory statement is not sufficient "evidence" to render an invention obvious).

¹⁵ *Jones v. Purdy*, 727 F.2d 1524, 1529, 220 U.S.P.Q.2d 1021, 1024 (Fed. Cir. 1984).

disclosure as a blueprint to render the present invention obvious. Such hindsight reconstruction is certainly improper.¹⁶ Accordingly, claim 1 is patentable.

C. Other Pending Claims

The arguments set forth above with respect to claim 1 also pertain to claims 9 and 22.

All other pending claims — claims 3-8, 10-21 and 25-33 — are dependent upon claims 1, 9 and 22 which have been shown to be patentable. Thus, the other pending claims are also patentable.

a) Claim 3

Notwithstanding the Examiner's admission that "*Chen* does not explicitly indicate, 'compiling said network by assigning a document identifier to one or more operators, combining said operators having a document identifier into an operator database and inverting that operator database when said source includes one or more databases'", dependent claim 3 stands rejected as obvious in view of the combination of *Chen* and *Spencer*.¹⁷ The Examiner asserts that "*Spencer* discloses document identifier to one or more operators."¹⁸ However, as discussed *supra*, *Spencer* does not disclose operators. Therefore, that reference cannot disclose document identifiers for operators.

Moreover, the Examiner has not pointed to any *evidence* in either *Chen* or *Spencer* for modifying either of those two references to produce the claimed invention. That is, the Examiner has not pointed to any reason for combining the references other than his conclusory statement that "it would have been obvious to a person of skill in the art at the time the invention was made to combine the teachings of *Chen* with the teachings of *Spencer* so as to obtain a method for analyzing information from a data source because the combination would provide a

¹⁶ *In re Rouffet*, 149 F.3d at 1357, 47 U.S.P.Q.2d at 1457.

¹⁷ 05/10/2002 Office Action, p. 6.

¹⁸ *Id.*

method including step of take into account the relative significance of terms in the database structure such as text or document databases [citation omitted] in the information retrieval with analyzing information from data sources of a data warehouse source environment."¹⁹ Again, such a conclusory statement is insufficient to render claim 3 obvious. In other words, the Examiner has not pointed to any portion of *Chen* or *Spencer* that discloses modifying either of those references in the manner hypothesized by the Examiner. Therefore, claim 3 is patentable in view of the combination of *Chen* or *Spencer*.

b) Claims 4-8, 10-21 and 25-33

Similar to dependent claim 3, dependent claims 4-8, 10-21 and 25-33 also stand rejected in view of combination of references from which the Examiner picks and chooses various portions and uses a conclusory statement to combine the selected portions from the cited references.²⁰ As discussed *supra* with respect to claims 1 and 3, the Examiner cannot use

¹⁹ *Id.*

²⁰ For example, the Examiner rejected claim 10 for the same reason claim 3 was rejected. See 05/10/2002 Office Action, pp. 7-8. Another example includes the rejection of claims 4-5 and 11-12, which the Examiner found unpatentable over the combination of *Chen*, *Spencer* and *Ponte*, U.S. Patent No. 6,353,825. 05/10/2002 Office Action, p. 9. The Examiner admitted that the combination of *Chen* and *Spencer* "does not explicitly indicate, 'each operator receives a listing of data context identifiers having one or more corresponding document features and said document features are chosen from a group consisting of terms, extracted entities, term relations, term counts, term distribution, discourse markers, feature distribution, reference data deriving from said data source.'" *Id.* However, the Examiner asserts that "*Ponte* discloses context, document feature and term counts." *Id.* The Examiner, therefore, contends that "it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of *Chen* in view of *Spencer* with teachings of *Ponte* so as to obtain a method for analyzing information from a data source because the combination would provide a method including the step of take into account the relative significance of terms in the databases structure such as text or document databases [citation omitted] in the information retrieval with analyzing information from data sources of a data warehouse source environment." *Id.* at pp. 9-10. Such reasoning lacks any evidence within the cited references for modifying their disclosures to create the present invention. In other words, the Examiner's reasoning is a clear example of hindsight reconstruction, which is improper. Accordingly, claims 4-5 and 11-12 are patentable.

The Examiner also rejected claim 21 as unpatentable over the combination of *Chen*, *Spencer* and *Ponte*, U.S. Patent No. 6,353,825. 05/10/2002 Office Action, p. 11. The Examiner's reasoning was another example of picking and choosing discrete portions from each reference to render the claim obvious. Again, the Examiner did not consider the claim as a whole. Thus, claim 21 is not obvious.

Furthermore, claims 25-33 stand rejected as obvious in view of the combination of *Chen*, *Spencer* and *Smiga et al.*, U.S. Patent No. 6,029,171 (hereinafter "*Smiga*"). 05/10/2002 Office Action, p. 12. With respect to claims 25-26 and 29, the Examiner admitted that "*Chen* does not explicitly indicate, 'wherein said programmed response comprises generating a text message; creating an output indicator, said indicator representing a response function initiated by one of said operators; wherein said output indicator represents a text message.'" 05/10/2002 Office Action, pp. 13-14. However, the Examiner asserts that "*Smiga* discloses text expression such as text message

hindsight reconstruction to render a claim obvious. Rather, the Examiner must consider the claim as a whole. Accordingly, claims 4-8, 10-21 and 25-33 are patentable.

IV. Conclusion

Because (i) *Chen, Spencer* and *Li*, either individually or in combination, fail to disclose all of the elements of claims 1, 9, and 22 as currently presented, particularly the elements that relate to "selecting a plurality of operators for analyzing information", "linking said operators together in a network", "creating a visual representation of said network", "evaluating said operators . . ." and "creating a plurality of output indicators corresponding to each of said operators . . ." and (ii) because the Examiner has not pointed to any portion of *Chen, Spencer* and *Li* that suggests modifying any of those references to produce the claimed invention, the pending claims are patentable in view of the three cited references. Accordingly, Applicant respectfully requests reconsideration and allowance of claims 1, 3-22 and 25-33.

Respectfully submitted,

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and response indicator." *Id.* The Examiner, therefore, contends that "it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of *Chen* in view of *Spencer* with teachings of [Smiga] so as to obtain a method for automatically responding to information received from a data stream because the combination would provide a method including the step of take into account the relative significance of terms in the databases structure such as text or document databases [citation omitted] in the information retrieval with analyzing information from data sources of a data warehouse source environment." *Id.* at p. 14. Again, the Examiner fails to point to any portion of the cited references for modifying their disclosures to create the claimed invention. The Examiner's use of hindsight reconstruction is improper, and claims 25-26 and 29 should be allowed. Similarly, the other claims rejected in view of the combinations of *Chen, Spencer* and *Smiga* should be withdrawn for the same reasons pertaining to claims 25-26 and 29.

APPENDIX A

Marked-Up Version of Amended Claims

1. A computer assisted method for analyzing information from a data source, comprising:
selecting one or more data sources;
[linking said selected source to an] selecting a plurality of operators for analyzing
information;
linking said plurality of operators together in a network;
creating a visual representation of said network;
detecting whether said data source is a data stream or a database; [and]
evaluating said operators against a database when said data source includes one or more
databases and evaluating a data unit against said operator when said data source includes one or
more data streams[.]; and
creating a plurality of output indicators corresponding to each of said operators on said
visual representation of said network, wherein said output indicators visually represent a
quantified output of said corresponding operators.
3. A method as in claim [2] 1, further comprising:
compiling said network by combining one or more operators into a single composite
operator when said data source includes one or more data streams; and
compiling said network by assigning a document identifier to one or more operators,
combining said operators having a document identifier into an operator database and inverting
that operator database when said data source includes one or more databases.

9. A computer assisted method for analyzing information from a data source, comprising:

selecting one or more data sources;

selecting [one or more] a plurality of operators for analyzing information;

linking [a plurality of] said operators together in a network;

creating a visual representation of said network;

linking said network to said data source in said visual representation; [and]

compiling said network and evaluating said data source using said network when said network is visually linked to said data source[.]; and

creating a plurality of output indicators corresponding to each of said operators on said visual representation of said network, wherein said output indicators visually represent a quantified output of said corresponding operators.

16. A method as in claim 9, [further comprising]:

creating an output indicator at each mode of said network; said output indicator visually represents a quantified input and a quantified output of said operator.] wherein said output indicators further represent a quantified input of said corresponding operators.

17. A method as in claim 16, wherein:

said output indicators display[s] the number of input documents and the number of output documents for [each node of said network] said operators.

21. A method as in claim 9, [further comprising:

creating an output indicator,] wherein each of said output indicators represent[ing] a response function initiated by [one of] said corresponding operator[s].

22. A method for automatically responding to information received from a data stream, comprising:

selecting a plurality of operators for detecting whether information satisfies a desired constraint;

linking said operators together in a network;

creating a visual representation of said network;

linking said data stream to said network in said visual representation;

evaluating said received information against said network; [and]

automatically generating a programmed response when a constraint from at least one network operator is satisfied[.]; and

creating an output indicator, said indicator representing a response function initiated by one of said operators.

APPENDIX B

Clean Version of Amended Claims

- (B)*
1. A computer assisted method for analyzing information from a data source, comprising:
selecting one or more data sources;
selecting a plurality of operators for analyzing information;
linking said plurality of operators together in a network;
creating a visual representation of said network;
detecting whether said data source is a data stream or a database;
evaluating said operators against a database when said data source includes one or more databases and evaluating a data unit against said operator when said data source includes one or more data streams; and
creating a plurality of output indicators corresponding to each of said operators on said visual representation of said network, wherein said output indicators visually represent a quantified output of said corresponding operators.

- (B)*
3. A method as in claim 1, further comprising:
compiling said network by combining one or more operators into a single composite operator when said data source includes one or more data streams; and
compiling said network by assigning a document identifier to one or more operators, combining said operators having a document identifier into an operator database and inverting that operator database when said data source includes one or more databases.

B1

X B

9. A computer assisted method for analyzing information from a data source, comprising:

selecting one or more data sources;

selecting a plurality of operators for analyzing information;

linking said operators together in a network;

creating a visual representation of said network;

linking said network to said data source in said visual representation;

compiling said network and evaluating said data source using said network when said network is visually linked to said data source; and

creating a plurality of output indicators corresponding to each of said operators on said visual representation of said network, wherein said output indicators visually represent a quantified output of said corresponding operators.

B1

X X

16. A method as in claim 9, wherein said output indicators further represent a quantified input of said corresponding operators.

17. A method as in claim 16, wherein said output indicators display the number of input documents and the number of output documents for said operators.

B1

X B

21. A method as in claim 9, wherein each of said output indicators represent a response function initiated by said corresponding operator.

(b)(5) (d)(1)

22. A method for automatically responding to information received from a data stream, comprising:

selecting a plurality of operators for detecting whether information satisfies a desired constraint;

linking said operators together in a network;

creating a visual representation of said network;

linking said data stream to said network in said visual representation;

evaluating said received information against said network;

automatically generating a programmed response when a constraint from at least one network operator is satisfied; and

creating an output indicator, said indicator representing a response function initiated by one of said operators.

APPENDIX C

Replacement Abstract

The present invention combines a data processing structure with a graphical user interface (GUI) to create an information analysis tool wherein multiple functions are combined in a network to extract information from multiple data sources. The functional network is created, and graphically represented to the user, by linking individual operations together. Furthermore, functional networks of individual operations can then be used for database retrieval as well as to filter data streams. Moreover, the user is able to create a visual representation of the structure forming a functional network which may be dynamically updated as new data is added or functions switched in or out.